

#### REMARKS

Reconsideration and allowance of the above-identified Application in view of the above amendments and the following remarks are respectfully requested.

Claims 1, 10, and 12 are amended to remove an unnecessary feature, to broaden a claim term, to recite an additional feature, and for grammar. Claims 2–9, 11, 13, 15, and 16 are amended accordingly. Claims 21–44 are new. Claims 1–44 are pending in the Application.

Applicant notes with appreciation the Examiner's indication that claims 8, 11, and 19 recite allowable subject matter.

#### **Rejection under 35 U.S.C. § 102**

Claims 1–7, 9, 10, 12–17, and 20 are rejected under 35 U.S.C. § 102(e) as being anticipated by Hutchinson (U.S. Pat. No. 6,617,082). For at least the following reasons, applicant respectfully requests that this rejection be withdrawn.

Claim 1 recites a lithographic apparatus comprising a programmable patterning structure that includes a plurality of reflective elements. Each reflective element includes upper and lower distributed Bragg reflectors, and at least two among the plurality of reflective elements have a common distributed Bragg reflector.

Hutchinson discloses a micromechanical system mask with an array of reflectors, each reflector having two mirrors separated from each other by an adjustable gap (abstract). Applicant finds no teaching in Hutchinson of two reflective elements, each having upper and lower distributed Bragg reflectors, with the two having a common distributed Bragg reflector. Therefore, applicant respectfully submits that claim 1 is allowable over the art of record.

Claims 2–7 and 9 depend from claim 1. Applicant respectfully submits that these claims are allowable at least by virtue of that dependency.

Also, claim 3 recites that at least two of the plurality of reflective elements have a common upper distributed Bragg reflector. Applicant finds no teaching of such a feature in Hutchinson.

Also, claim 7 recites that an actuator configured to set a separation relation of at least one of the reflective elements includes a piezoelectric element. Applicant respectfully notes that Hutchinson does not teach this feature. In column 3, Hutchinson teaches that a gap 370 between mirror 320 and membrane 340 may be controlled electrostatically (lines 21–32). As noted in paragraph [0059] of the specification as filed, electrostatic actuation and piezoelectric actuation are two different mechanisms. Electrostatics relates to interactions between stationary electric charges, while piezoelectricity refers to a relation between voltage and mechanical stress (see, e.g., Webster's II New Riverside University Dictionary, copies of relevant pages attached).

Claim 10 recites a lithographic apparatus comprising a programmable patterning structure that includes a plurality of reflective elements. Each reflective element includes a distributed Bragg reflector, and at least two among a set of the plurality of reflective elements have a common distributed Bragg reflector.

Applicant finds no teaching in Hutchinson of two reflective elements having a common distributed Bragg reflector. Therefore, applicant respectfully submits that claim 10 is allowable over the art of record.

Claim 12 recites a device manufacturing method comprising using a programmable patterning structure that includes a plurality of reflective elements. Each reflective element includes upper and lower distributed Bragg reflectors, and at least two among the plurality of reflective elements have a common distributed Bragg reflector.

As discussed above, applicant finds no teaching in Hutchinson of two reflective elements, each having upper and lower distributed Bragg reflectors, and the two having a common distributed Bragg reflector. Therefore, applicant respectfully submits that claim 12 is allowable over the art of record.

Claims 13–18 and 20 depend from claim 12. Applicant respectfully submits that these claims are allowable at least by virtue of that dependency.

Also, claim 14 recites that at least two of the plurality of reflective elements have a common upper distributed Bragg reflector. Applicant finds no teaching of such a feature in Hutchinson.

Also, claim 18 recites using an actuator that includes a piezoelectric element to set a separation relation of at least one of the reflective elements. As discussed above, applicant respectfully notes that Hutchinson does not teach this feature.

New claims 21–44 recite apparatus and methods as disclosed in, e.g., the claims as originally filed. At least for the reasons discussed above, applicant respectfully submits that these claims are allowable over the art of record.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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**electronegative** (ĭ-lĕk'trō-nĕ-g'ə-tĭv) *adj.* 1. Having a negative electric charge. 2. Tending to attract electrons to form a chemical bond.

**electron gun** *n.* An electron-emitting electrode and associated elements, esp. in a cathode-ray tube, that produce a beam of accelerated electrons.

**electronic** (ĭ-lĕk'trō-nĭk, ĕ'lĕk-) *adj.* 1. Of or relating to electrons. 2. Of, relating to, based on, operated by, or otherwise involving the controlled conduction of electrons or other charge carriers, esp. in a vacuum, gas, or semiconducting material. 3. Of or relating to electronics. —**electronically** *adv.*

**electronic flash** *n.* A strobe light.

**electronic music** *n.* Music produced by electronic devices.

**electronics** (ĭ-lĕk'trō-nĭks, ĕ'lĕk-) *n.* (sing. in number). 1. The science and technology of electronic phenomena. 2. The commercial industry of electronic devices and systems.

**electronic stylus** *n.* A penlike input device that signals the computer by means of an electronic pulse and is commonly used in conjunction with a cathode-ray tube.

**electron lens** *n.* Any of various devices using an electric or a magnetic field to focus a beam of electrons.

**electron micrograph** *n.* A micrograph made by an electron microscope.

**electron microscope** *n.* Any of a class of microscopes using electrons rather than visible light to produce magnified images, esp. of objects with dimensions smaller than the wavelengths of visible light, with linear magnification up to or exceeding a million (10<sup>6</sup>).

**electron multiplier** *n.* A vacuum tube in which a single electron produces a large number of secondary electrons by collision with an anode, the process gen. being repeated through a number of stages to achieve great amplification.

**electron optics** *n.* (sing. in number). The science of the control of electron motion by electron lenses in systems or under conditions analogous to those involving or affecting visible light.

**electron pair** *n.* 1. Two electrons functioning or considered as functioning in concert, esp. two electrons shared by two atoms joined by a covalent chemical bond. 2. The combination of an electron and a positron as produced by a high-energy photon.

**electron tube** *n.* A sealed enclosure, either highly evacuated or containing a controlled quantity of gas, in which electrons can be made sufficiently mobile to act as the principal carriers of current between at least one pair of electrodes, often under the control of one or more additional electrodes.

**electron volt** *n.* A unit of energy equal to the energy acquired by an electron falling through a potential difference of one volt, approx.  $1.602 \times 10^{-19}$  joule.

**electrophoresis** (ĭ-lĕk'trō-fō-rĕ-sĭs) *vi.* -resed, -resing, -reses. [Back-formation < ELECTROPHORESIS.] To subject to electrophoresis.

**electrophoresis** (ĭ-lĕk'trō-fō-rĕ-sĭs) *n.* The motion of charged particles, esp. colloidal particles, through a relatively stationary liquid under the influence of an applied electric field provided, in general, by immersed electrodes.

**electrophoretogram** (ĭ-lĕk'trō-fō-rĕ-tō-gram) *n.* [ELECTROPHORETIC] + -GRAM.] A record of the separated components of a mixture produced by electrophoresis.

**electrophorus** (ĭ-lĕk'trō-fō-r'as, ĕ'lĕk-) *n.* pl. -ori (-ə-tī) [NLat. ELECTRO + Gk. phoros, bearer < pherein, to bear.] A device for generating static electricity, having a disk given a negative charge by friction and a metal plate charged by induction when in contact with the disk.

**electroplate** (ĭ-lĕk'trō-plāt) *vi.* -plated, -plating, -plates. To cover or coat with a thin layer of metal by electrodeposition.

**electropositive** (ĭ-lĕk'trō-pōzĭ-tĭv) *adj.* 1. Having a positive electric charge. 2. Tending to release electrons to form a chemical bond.

**electroscope** (ĭ-lĕk'trō-skōp) *n.* An instrument for detecting the presence, sign, and in some configurations the magnitude of an electric charge by the mutual attraction or repulsion of metal foils or pith balls. —**electroscopic** (-skōp'ĭk) *adj.*

**electroshock** (ĭ-lĕk'trō-shōk) *n.* Shock therapy in which an electric current is passed through the brain.

**electrostatic** (ĭ-lĕk'trō-stātĭk) *adj.* 1. a. Of or relating to stationary electric charges. b. Produced or caused by such charges. 2. Of or relating to electrostatics. —**electrostatically** *adv.*

**electrostatic generator** *n.* Any of various devices, esp. the Van de Graaff generator, that generate high voltages by accumulating large quantities of electric charge.

**electrostatic precipitation** *n.* Removal of particles suspended in a gas by electrostatic charging and subsequent precipitation onto a collector in a strong electric field.

**electrostatic printing** *n.* A printing or copying process that uses electrostatic forces to form the image in powder or ink directly on the surface to be printed.

**electrostatics** (ĭ-lĕk'trō-stātĭks) *n.* (sing. in number). The physics of electrostatic phenomena.

**electrostatic unit** *n.* Any of a system of units for electricity and magnetism based on a system of equations in which the permittivity of empty space is defined as unity and by means of which a fundamental unit of charge is defined.

**electrotherapeutics** (ĭ-lĕk'trō-thēr'ə-pyō'tĭks) *n.* (sing. in number). Electrotherapy.

**electrotherapy** (ĭ-lĕk'trō-thēr'ə-pĕ) *n.* Medical therapy, as diathermy, using electric currents.

**electrothermal** (ĭ-lĕk'trō-thūr'māl) *adj.* 1. Of, relating to, or involving both electricity and heat. 2. Of or relating to the production of heat by electricity. —**electrothermally** *adv.*

**electrotonus** (ĭ-lĕk'trō-tō-n'as, ĕ'lĕk-) *n.* Alteration in sensitivity of a nerve caused by the passage of an electric current through any part of it. —**electrotonic** (-trō-tōn'ĭk) *adj.*

**electrotype** (ĭ-lĕk'trō-tĭp) *n.* 1. A duplicate metal plate used in letterpress printing, made by electroplating a lead or plastic mold of the original plate. 2. The process of making an electrotype. —**electrotype** *v.* (-tĭped, -tĭping, -types). —**electrotyp'er** *n.* —**electrotypic** (-trō-tĭp'ĭk) *adj.*

**electrovalence** (ĭ-lĕk'trō-vā'l'ens) *also* **electrovalency** (-lān-sĕ) *n.* 1. Valence marked by the transfer of electrons from atoms of one element to atoms of another. 2. The number of electric charges lost or gained by an atom in such a transfer. —**electrovalent** *adj.*

**electrovalent bond** *n.* Chem. An ionic bond.

**electrum** (ĭ-lĕk'trəm) *n.* [ME *electrum* < Lat., amber < Gk. *ēlektron*.] An alloy of silver and gold.

**electuary** (ĭ-lĕk'tchōō-ĕr'ĕ) *n.* pl. -ies. [ME *electuarie* < Llat. *electuarium*, prob. alteration of Gk. *ekleikton* < *ekleikhein*, to lick up: *ek*, out + *leikhein*, to lick.] A drug mixed with sugar and water or honey into a pasty mass suitable for oral administration.

**elemosynary** (ĕ'lĕ-mōs'ə-nĕ-rĕ, ĕ'lĕ-s-) *adj.* [Med. Lat. *elemosynarius* < Llat. *elemosynā*, alms. —see ALMS.] 1. Of or relating to alms or the giving of alms. 2. Depending on or supported by alms. 3. Contributed as an act of charity: GRATUITOUS.

**elegance** (ĕ'lĕ-gāns) *also* **elegancy** (-gān-sĕ) *n.* 1. a. Grace and refinement in appearance, movement, or manners. b. Tasteful opulence in form, decoration, or presentation. 2. a. Grace and restraint of style. b. Scientific precision and exactness. 3. Something elegant or luxurious.

**elegant** (ĕ'lĕ-gānt) *adj.* [Ofr. < Lat. *elegans*.] Marked by or displaying elegance. —**elegantly** *adv.*

**elegiac** (ĕ'lĕ-jĭ'āk, ĭ-lĕ-jĕ-'āk) *adj.* [Llat. *elegiacus* < Gk. *elegiakos* < *elegeia*, elegy.] 1. a. Relating to an elegy. b. Expressing sorrow: MOURNFUL. 2. Of, relating to, or written in couplets whose first line is a dactylic hexameter and second a pentameter. —**elegiac** *n.* —**elegiacal** *adj.* —**elegiacally** *adv.*

**elegit** (ĭ-lĕ-jĭt) *n.* [Lat. *elegit*, he has chosen, the first word of a phrase frequently used in the writ.] Law. A writ of execution against a debtor by which the debtor's goods or property are delivered to the plaintiff until the debtor can settle the debt.

**elégize** (ĕ'lĕ-jĭz) *v.* -gized, -gizing, -gizes. —*vi.* To compose an elegy. —*vt.* To compose an elegy on or for.

**elegy** (ĕ'lĕ-jĕ) *n.* pl. -gies. [Fr. *élegie* < Lat. *elegia* < Gk. *elegeia* < *elegos*, mournful song.] 1. A poem in elegiac couplets. 2. A poem or song written esp. as a lament for one who is dead. 3. A melancholy or pensive musical composition or poem.

**element** (ĕ'lĕ-mĕnt) *n.* [ME < Ofr. < Lat. *elementum*.] 1. A fundamental, irreducible constituent. 2. **elements**. The basic principles or assumptions of a subject. 3. Math. a. A member of a set. b. A point, line, or plane. c. A part of a geometric configuration, as an angle in a triangle. d. The generatrix of a geometric figure. e. Any of the terms in the rectangular array of terms that constitute a matrix or determinant. 4. Chem. & Physics. A substance made up of atoms bearing an identical number of protons in each nucleus. 5. One of four substances, earth, air, fire, or water, once held to be a basic constituent of the universe. 6. **elements**. The forces that constitute the weather, esp. severe or inclement weather. 7. An environment naturally appropriate to or associated with an individual. 8. **elements**. The bread and wine of the Eucharist.

\* **SYMS**: 1. ELEMENT, BASIC, ESSENTIAL, FUNDAMENTAL, RUDIMENT *n.* **core meaning**: an irreducible constituent of a whole < the elements of physics >. 2. ELEMENT, COMPONENT, CONSTITUENT, FACTOR, INGREDIENT, PART *n.* **core meaning**: one of the individual entities contributing to a whole < intelligence and ambition—two key elements to success >.

**elemental** (ĕ'lĕ-mĕn'tl) *adj.* 1. Of, relating to, or constituting an element. 2. a. Fundamental or essential: INDISPENSABLE. b. Of or relating to the fundamentals: ELEMENTARY. c. Belonging to inherently. 3. Being like a force of nature in power or effect: **elemental** *n.* —**elementally** *adv.*

**elementary** (ĕ'lĕ-mĕn't'ē-ĭ, -trĕ) *adj.* 1. Fundamental, essential, or irreducible. 2. Of, involving, or introducing the fundamental or simplest aspects of a subject < an elementary arithmetic textbook >. 3. Of or pertaining to an elementary school < the elementary class

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yōō abuse zh vision ȳ about, item, edible, gallop, circus

**piece** (pēs) *n.* [ME *pece* < OFr. < Med. Lat. *pecia*, prob. of Gaulish orig.] 1. A thing regarded as a unit or element of a larger quantity or class: **PORTION** <a piece of pie> <a piece of a puzzle> 2. A part separated or broken off from a whole: **FRAGMENT** <a piece of glass> 3. An object that is one member of a group or class <a piece of furniture> 4. An artistic, literary, or musical work or composition. 5. An instance: specimen <a piece of advice> 6. One's fully expressed opinion <I speak one's piece> 7. A coin <a 50¢ piece> 8. One of the counters or men used in playing board games. 9. Any of the chess figures other than a pawn. 10. A firearm. 11. A short distance <There was farm country down the road on the right a piece> —James Agee> —*vt.* **pieced**, **piecing**, **pieces**. 1. To mend or restore by adding pieces to. 2. To join the pieces of: **ASSEMBLE** <pieced together the model airplane> —*a piece of (one's) mind*. Informal. Frank and unsparing criticism: **CENSURE**. —*go to pieces*. 1. To shatter into small pieces: fall apart. 2. Informal. To lose mental and emotional self-control: **BREAK DOWN**. —*of a piece*. Belonging to the same kind or class. —*piece of the action*. Informal. A share of an activity or of profits.

**pièce de résistance** (pyēs də ră-zē-stāns') *n.* [Fr.] 1. The principal or featured dish of a meal. 2. A crowning achievement.

**piece goods** (pēs'gōds) *pl.n.* Fabrics made and sold in standard lengths.

**piece-meal** (pēs'mēl') *adv.* [ME *pecemele*: *pece*, piece + *-mele*, by a fixed measure < OE *mæl*, appointed time.] 1. Piece by piece: **GRADUALLY** <built my collection piece-meal> 2. In pieces: **APART**. —*adj.* Accomplished or made piece by piece.

**piece of eight** *n.* An old Spanish silver coin.

**piece-work** (pēs'wōrk') *n.* Work paid for according to the number of items produced. —*pieceworker* *n.*

**pie chart** *n.* A circular chart having radii dividing the circle into areas proportional to the relative size of the quantities represented.

**pie'd** (pid) *adj.* [ME < *pie*, magpie. —see *pieb.*] Spotted or patched with color: **SPLOTCHED**.

**pie'd** (pid) *v.* var. *p.t.* & *p.p.* of *pie*.

**pie'd-a-terre** (pyā-dā-tār') *n.* *pl.* **pie'ds-a-terre** (pyā-dā-tār') [Fr.: *pie'd*, foot + *a*, to + *terre*, ground.] A second or temporary lodging.

**pie'd-mont** (pēd'mōnt') *n.* [After Piedmont, a region in Italy.] A region or area situated at the foot of a mountain range. —*pie'd-mont'* *adj.*

**pie'd piper** *n.* [After *The Pied Piper of Hamelin*, title and hero of a poem by Robert Browning (1812-1889).] 1. One who entices others with delusive promises. 2. An appealing but irresponsible leader.

**pie-plant** (pi'plānt') *n.* RHUBARB 1.

**pier** (pir) *n.* [ME *per* < OE < Med. Lat. *pera*.] 1. *a.* A platform extending from a shore over water and supported by piles or pillars, used to secure, shelter, and provide access to vessels. *b.* Such a structure used mainly for public recreation. 2. A supporting structure at the junction of connecting spans of a bridge. 3. Any of various vertical supporting structures, esp.: *a.* A pillar, rectangular in cross section, supporting a roof or arch. *b.* A section of wall between windows or doors. *c.* A reinforcing structure projecting from a wall: **BUTTRESS**.

**perce** (pirs) *v.* **pierced**, **piercing**, **pierces**. [ME *percen* < OFr. *percer* < VLat. *\*pertusiare* < Lat. *pertundere*, to bore through: *per-*, through + *tundere*, to beat.] —*vt.* 1. To puncture or pass through with or as if with a sharp instrument: **STAB**. 2. To make a hole or opening in: **PERFORATE**. 3. To make a way through <a trail that pierced the mountains> 4. To sound sharply through: **PENETRATE** <a shout pierced the fog> 5. To succeed in understanding or discerning <I pierced the complexities of the problem> 6. To affect penetratingly: move deeply <was pierced by guilt> —*vi.* To penetrate into or through something —*piere'er* *n.* —*piere'ing* *adj.* —*piere'ingly* *adv.*

**Pierian Spring** (pi-trē-on) *n.* [< Lat. *Pierius*, sacred to the Muses < Gk. *Pieria*, a region of Macedonia.] 1. Gk. Myth. A spring in Macedonia, sacred to the Muses. 2. A source of inspiration.

**Pierrot** (pē'rōr', pyē'rōr') *n.* [Fr., dim. of the name *Pierre*, Peter < Lat. *Petrus*.] A comic character in traditional French pantomime, dressed in a floppy white costume.

**pie-tà** also **Pie-tà** (pyā-tā') *n.* [Ital., pity < Lat. *pietas*. —see *piety*.] A representation of the Virgin Mary holding and mourning over the dead body of Jesus.

**pie-tism** (pi-tīz-əm) *n.* [G. *Pietismus* < Lat. *pietas*; *piety*.] 1. Piety. 2. Exaggerated or affected piety. 3. **Pietism**. A reform movement in the German Lutheran Church during the 17th and 18th cent., which sought to renew the devotional life in the Protestant religion. —*pie-tist* *n.* —*pie-tis'tic*, *pie-tis'tical* *adj.* —*pie-tis'tically* *adv.*

**pie-ty** (pi-tē) *n.* *pl.* *-ties*. [Fr. *piété* < Lat. *pietas*, dutiful conduct < *pius*, dutiful.] 1. Religious devotion and reverence to God. 2. Devotion and fidelity to parents and family. 3. A pious thought or act. 4. The quality or state of being pious.

**piezo-** *pref.* [< Gk. *piezein*, to squeeze.] Pressure <piezometer>

**piezo-electric-ity** (pi-ē-zō-ō-lēk-trī-tē, pē-zō-ō) *n.* Physics. Generation of electricity or of electric polarity in dielectric crystals subjected to mechanical stress, and conversely, generation of stress in such crystals subjected to an applied voltage. —*pie-zo-elec'tric*, *pie-zo-elec'trical* *adj.* —*pie-zo-elec'tric-al-ly* *adv.*

**pie-zom-e-ter** (pi-tōm-tar, pē-t-) *n.* An instrument for measuring pressure, esp. high pressure. —*pie-zo-met'ric* (pi-ē-zō-met'rik, pē-zō-), *pie-zo-met'rical* *adj.* —*pie-zo-met'ry* *n.*

**pi-file** (pi-fal) *vi.* **-fled**, **-filing**, **-flea**. [Orig. unknown.] To talk or act in a foolish or futile way. —*n.* Inane ideas or talk: **NONSENSE**.

**pig** (pig) *n.* [ME *pigge*.] 1. A stout-bodied mammal of the family Suidae, with short legs, cloven hoofs, bristly hair, and a cartilaginous snout used for rooting, esp. the domesticated hog, *Sus scrofa*, when young or relatively small. 2. The edible parts of a pig. 3. Informal. One considered to be greedy, dirty, or messy. 4. **GUINEA PIG**. 5. *a.* An oblong block of metal, chiefly iron or lead, poured from a smelting furnace. *b.* A mold in which such metal is cast. —*vi.* **pigged**, **pigging**, **pigs**. To give birth to pigs: **FARROW**. —*in a poke*. Something offered in a manner that conceals its true value or nature. —*pig it*. To live or eat in a piglike manner. —*out*. Slang. To eat to surfeit.

**pig bed** *n.* A bed of sand in which pigs of iron are cast.

**pig-boat** (pig'bōt') *n.* Slang. A submarine.

**pigeon** (pi-jon) *n.* [ME < OFr. *pigeon* < Lat. *pipio*, young chirping bird < *pipire*, to chirp.] 1. A widely distributed dove of the family Columbidae, having a prominent chest, short legs, and a small beak, esp. the rock dove, *Columba livia*, or any of its domesticated varieties. 2. Slang. One easily swindled: **DUPE**.

**pigeon breast** *n.* Chicken breast. —*pi-gion-breast'ed* *adj.*

**pigeon hawk** *n.* A small falcon; *Falco columbarius*.

**pigeon-hole** (pi-jon-hōl') *n.* 1. A hole for nesting in a pigeon's nest. 2. A small compartment or recess, as in a desk, for holding papers. 3. A specific, often misleading stereotyped category. —*vt.* **-holed**, **-holing**, **-holes**. 1. To place or file in a pigeonhole. 2. To classify mentally: **CATEGORIZE**. 3. To set aside and ignore: **SHELVE**.

**pigeon pea** *n.* 1. A tropical shrub, *Cajanus indicus*, bearing orange-yellow flowers. 2. The edible brown seed of the pigeon pea.

**pigeon-toed** (pi-jon-tōd') *adj.* Having the toes turned inward.

**pigeon-wing** (pi-jon-wing') *n.* A dance step performed by jumping and clapping the feet together.

**pig-fish** (pig'fish') *n.* *pl.* **pigfish** or **-fish-es**. A marine food fish, *Orthopristis chrysopterus* of U.S. coastal Atlantic waters.

**piggery** (pig'gē) *n.* *pl.* *-ies*. A place where pigs are kept.

**piggin** (pig'in) *n.* [Orig. unknown.] A small wooden bucket with one stave projecting above the rim for use as a handle.

**pig-gish** (pig'ish) *adj.* 1. Like a pig. 2. Stubborn: **pig-headed**. —*gish-ly* *adv.* —*pig-gish-ness* *n.*

**piggy** (pig'ē) *n.* *pl.* *-gies*. A little pig.

**piggy-back** (pig't-bāk') also **pick-a-back** (pik'-a-bāk') [*A* variation of *PICKABACK*.] —*adv.* 1. On the back or shoulder: <carried child piggyback> 2. By a method of transportation in which trailers are carried on trains or cars on specially designed trucks. The act of transporting piggyback. —*v.* **-backed**, **-backing**, **-backs**. —*vt.* To cause to be aligned with something, as a camera, that is larger or more important. —*vi.* To function as if carried on the back of another. —*pig-gy-back'* *adj.*

**piggy bank** *n.* A coin bank shaped like a pig.

**pig-head-ed** (pig'hēd'ēd) *adj.* Stubborn. —*pig-head-ed-ly* *adv.* —*pig-head-ed-ness* *n.*

**pig iron** *n.* Crude iron cast in blocks.

**pig Latin** *n.* A jargon systematically formed by transposing the initial consonant to the end of the word so as to form an additional syllable, as *igpay atinlay* for *pig Latin*.

**pig lead** *n.* Crude lead cast in blocks.

**piglet** (pig'lit) *n.* A young pig.

**pigment** (pig'ment) *n.* [Lat. *pigmentum* < *pingere*, to paint.] A substance used as coloring. 2. Dry coloring matter, usually in powder to be mixed with a base, as oil or water, to make paint or similar products. 3. Biol. A substance, as hemoglobin or chlorophyll, that imparts a characteristic color to animal or plant tissue. —*ment-ed*, *-ment-ing*, *-ments*. To color with pigment. —*ment-ary* (pig'man-tēr') *adj.*

**pigmentation** (pig'man-tā'shən) *n.* Biol. 1. Coloration imparted by pigment. 2. Deposition of pigment by cells.

**Pigmy** (pig'mē) *n.* & *adj.* var. of **PYGMY**.

**pignut** (pig'nūt') *n.* 1. A hickory tree, *Carya glabra*, of the eastern United States, bearing edible nuts. 2. The nut of the pignut tree, having a rather bitter kernel. 3. The eastern hickory.

**pig-pen** (pig'pēn') *n.* 1. A pen for pigs. 2. A dirty place.

**pig-skin** (pig'skīn') *n.* 1. The skin of a pig. 2. Leather made of pigskin. 3. Informal. *a.* A football. *b.* A saddle.

**pig-sney** (pig'nē) *n.* [ME *piggesnye*: *pigge*, pig + *-sney*, eye, eye.] Obs. 1. A darling. 2. An eye.

**pig-sty** (pig'stī) *n.* *pl.* *-sties*. A pigpen.

**pig-tail** (pig'tāl') *n.* 1. A plait of tightly braided hair. 2. A strand of tobacco. —*pig-tail'ed* *adj.*

**pig-weed** (pig'wēd') *n.* 1. A common wild plant, *Chenopodium*, having leaves with a mealy texture and small green flowers.

ā pat ā pay ārcare ā father ē pet ē be hē the  
ī tie īr pier ō pot ō toe ō paw for ō mine